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# Environmental Sustainability and Environmental Justice at the International Level: Traces of Tension and Traces of Synergy

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**ENVIRONMENTAL SUSTAINABILITY AND  
ENVIRONMENTAL JUSTICE AT THE  
INTERNATIONAL LEVEL:  
TRACES OF TENSION AND TRACES OF  
SYNERGY**

DONALD T. HORNSTEIN<sup>\*</sup>

This Symposium Issue exemplifies the attention increasingly given to environmental sustainability and environmental justice: its value is to focus attention on the relationships between the two. In this essay, I make two points about this interrelationship by drawing on evidence from transnational and international environmental problems. First, there may be considerable tension between the substantive ends toward which each of these concepts points. For example, when sustainability is interpreted as emphasizing notions of sustained yields and carrying capacities, it can lead to results at odds with the ethical notions of intrinsic value and moral inclusion which are often described as core notions of environmental justice.

Second, there may be considerable synergy between the two concepts. Both concepts emphasize notions of community norms and participation; this shared emphasis is fertile ground on which to build policy prescriptions capable of improving such well-known environmental problems such as the tragedy of the commons and monitoring and enforcement difficulties. I conclude this essay with only modest optimism that the concepts of environmental sustainability and environmental justice, as important as they are, are sufficiently powerful to claim true “paradigm” status for the breadth of issues addressed by environmental law and policy.

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### SUSTAINABILITY VERSUS JUSTICE: WATER POLICY AND THE CASE OF THE NILE RIVER

A common definition of “sustainability” captures the idea of aligning human consumption with the capacity of ecological systems to supply, over a long period of time, such natural resources as air, soil, or water on which production depends.<sup>1</sup> In its Declaration of Principles, the United Nations Conference on Environment and Development recommends that, “[t]o achieve sustainable development and a higher quality of life for all people, states should reduce and eliminate unsustainable patterns of production and consumption . . . .”<sup>2</sup> This notion of sustainability lies at the core of many “commons” problems, where the central issue is to enable “individuals to sustain long-term, productive use of natural resource systems.”<sup>3</sup>

Certainly, few would deny the value of efforts—whether public or private—that conserve finite resources and prevent unsustainable resource use. Such efforts, however, are largely economic in orientation, based on untested assumptions that the “resources” at issue should even be “used” in the first place. Moreover, an unrelenting focus on the finding and subsequent maximizing of “sustained yield” more often than not ignores local populations’ claims to “uses” of the resource that may be at odds with the particular “yield” that is to be maximized. To the extent that this occurs, an economic conception of sustainability is an insufficient theory on which to ground policy-making. More to the point, a purely economic notion of sustainability may be at odds with ethical notions of moral consideration that often underlie environmental justice claims.

To illustrate this tension, I offer the case history of current efforts to renegotiate water rights on the Nile River in central and northern Africa. Egypt has legal and real-life claims to the lion’s share of the Nile’s water. Upper riparians, most notably Ethiopia,

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1. See, e.g., Paula Abrams, *Population Control and Sustainability: It's the Same Old Song But With A Different Meaning*, 27 ENVTL L. 1111, 1119 & n. 41 (1997) (introducing an analysis of “sustainability” by referring to rates of natural resource depletion in excess of natural carrying capacities); Scott W. Hardt, *Federal Land Management in the Twenty-First Century: From Wise Use to Wise Stewardship*, 18 HARV. ENVTL. L. REV. 345, 396-97 (1994) (referring to “sustainability” in federal land laws as focusing on “sustaining the yield of renewable resources” rather than on sustaining ecosystems).

2. United Nations Conference on Environment and Development, Declaration of Principles, Principle 8 (1992) (quoted in ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION, LAW, SCIENCE, AND POLICY 1268 (2d ed. 1996)).

3. ELINOR OSTROM, GOVERNING THE COMMONS 1, 1 (1990).

Sudan, and some of the "Great Lakes" countries surrounding Lake Victoria (such as Uganda, Rwanda, Burundi, Kenya and Tanzania), historically have used far less of the Nile's flow, or none at all.

The story of the Nile is interesting, even gripping, in its own right. The Nile drains approximately 10 percent of the African continent.<sup>4</sup> It flows through 10 riparian countries that contain some 293 million people who are, on average, among the poorest in the world.<sup>5</sup> Any success these riparians have in creating a workable legal regime governing water allocation would be, by most measures, a major diplomatic breakthrough. This might lead to regional improvements in their standards of living and could, perhaps, even avert war over dwindling water resources.<sup>6</sup>

Current efforts to negotiate solutions over the Nile, however, illustrate how gains in optimizing sustainable yield can come at the expense of losses in non-market values (wildlife and ecosystems). In addition, these solutions can drastically affect the ways of life of local populations (such as the Dinka, Nuer and Shilluk peoples). Such losses are hardly unique to the Nile. Considerable literature has developed documenting the destruction of ecosystems and displacement of indigenous peoples worldwide by large-scale water-reclamation projects.<sup>7</sup> Recently, in the American West, policymakers have been trying to calculate and restore losses inflicted on riparian ecosystems and communities by our own country's past efforts to optimize yield from rivers.<sup>8</sup>

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4. See THE NILE: SHARING A SCARCE RESOURCE 1 (P.P. Howell & J.A. Allan eds., 1994).

5. See Ashok Swain, *Ethiopia, the Sudan and Egypt: the Nile River Dispute*, 35 J. MOD. AFR. STUD. 676, 676 (1997).

6. See Joyce Starr, *Special Report: Nations Must Join Together for Water-Conservation and Sharing Projects to Promote World Peace*, CHRISTIAN SCIENCE MONITOR, May 27, 1992, at 12 (reporting that Egyptian President Anwar Sadat's reaction to Ethiopia's growing interest in withdrawing water from the upper Blue Nile basin included the statement, "the only matter that could take Egypt to war again is water.").

7. See, e.g., Maria Stavropoulou, *The Right Not to Be Displaced*, 9 AM. U. J. INT'L L. & POL'Y 689, 702-05 (1994) (referring to "development-induced" relocation); Zygmund Plater, *Damming the Third World: Multilateral Development Banks, Environmental Diseconomies and International Reform Pressures on the Lending Process*, 17 DENV. J. INT'L L. & POL'Y. 121, 127-28 (1988) (discussing the displacement of indigenous peoples by large-scale dam projects).

8. See generally NATURAL RESOURCES LAW CENTER, UNIVERSITY OF COLORADO SCHOOL OF LAW, RESTORING THE WATERS 4 (1997) (Due to increased priority to ecosystem values, "[t]he large-scale development of new water supplies through traditional means (dams and diversions) has virtually ceased . . . [and] [i]n some cases, water that was once diverted has been put back into the river.").

From the current vantage point of Egypt, the Nile's principal user, the major problem is too little water.<sup>9</sup> This, however, wasn't always so. For over 5,000 years, between 3500 B.C. and the middle of the nineteenth century (A.D.), Egypt's principal concern was the seasonality of the Nile flood, which brought both water and nutrient-laden silt from upstream catchment areas. When the flood was too low, cultivated acreage might be halved, causing widespread famine; when the flood was too high, small-scale riverine irrigation works were destroyed and fields were swamped, also causing widespread famine.<sup>10</sup> Between 1850 and 1950, engineering advances in dam construction allowed for the first major human-built impoundments on the Nile. For example, in 1902 the first dam was completed at Aswan, in southern Egypt. The dam allowed for year-round irrigation in most parts of the Nile valley further north.<sup>11</sup> This "low" Aswan Dam, however, could not protect Egypt from variations in the Nile flow from year to year. Upon its independence in 1952, Egypt, under the leadership of Gamal Abd al-Nasser, chose to expand the dam. The Aswan dam was converted to a "high" dam capable of impounding and delivering a steady outflow of water, even in years of the lowest upstream rainfall (which might statistically occur once every 100 years).<sup>12</sup> By 1970, the High Dam at Aswan had been completed, and Lake Nasser, the world's third largest human impoundment, had been enclosed behind it.<sup>13</sup>

As Egypt tamed the Nile at Aswan, it largely operated under the legal assumption that "Egypt is the Nile and the Nile is Egypt." The assumption was correct under the Colonial-era and post-Colonial-era treaties. In the Nile Waters Agreement of 1929, the British government, on behalf of both Egypt (over which it had effective control) and Sudan (which the British government administered directly), provided that Sudan's water needs would be subordinated to Egypt's. Egypt acquired the right to 48 billion cubic meters ("BCM") of the Nile's flow while Sudan merely acquired the right to 4 BCM (both as measured at Aswan).<sup>14</sup> Even before its independence in 1956, Sudan was demanding modification of this Agreement, because Egypt's plan

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9. The material that follows is taken largely from Donald T. Hornstein, *The Language of the Nile: Cooperation and Competition in the Use of Watercourses* (unpublished manuscript on file with the *Duke Environmental Law & Policy Forum*).

10. See GREG SHAPLAND, RIVERS OF DISCORD 60 (1997).

11. See *id.* at 61.

12. See *id.* at 63.

13. See DANIEL HILLEL, RIVERS OF EDEN 127 (1994).

14. See JOHN WATERBURY, HYDROPOLITICS OF THE NILE VALLEY 66-67 (1979).

to build the High Dam at Aswan would create an artificial lake that would flood parts of Sudanese territory and, more importantly, because the 1929 Agreement was too restrictive of Sudanese development.<sup>15</sup> In the post-colonial Agreement for the Full Utilization of the Nile Waters of 1959, the two independent countries of Egypt and Sudan reallocated the Nile. In this treaty, approximately 14.5 BCM of previously unallocated water was designated for Sudan and approximately 7.5 BCM of unallocated water was designated for Egypt. This created aggregate treaty rights to Nile water that reflected a total of 55.5 BCM for Egypt and 18.5 BCM for Sudan.<sup>16</sup>

Although both countries were in a position to appreciate the colonial hubris under which the Nile had been previously allocated by the British, neither Egypt nor Sudan recognized the rights of any of the upstream riparian countries. In fact, they even agreed to take a “unified” position should “any question” over the Nile’s allocation arise “with the governments of any (other) riparian territories . . . .”<sup>17</sup> At least as a matter of treaty rights, today Egypt lays claim to most of the Nile’s flow.

Enter notions of economic “sustainability.” According to the conventional wisdom, the problem with the Nile today is one of too little water—either to accommodate upstream riparians such as Ethiopia and Uganda that are no longer content to remain outside of the Nile’s allocation regime, or to accommodate Egypt’s demands for even more water than its current water budget under the 1959 Agreement.<sup>18</sup> Furthermore, to meet these human needs, it has been proposed for over 100 years that the river’s carrying capacity be increased by the construction of a canal in southern Sudan that would allow the waters of the so-called “White Nile” to bypass the “Sudd,” one of the largest freshwater marshes in the world, where nearly 60 percent of the White Nile’s water is lost by evaporation and transpi-

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15. See Joseph W. Dellapenna, *Rivers as Legal Structures: The Examples of the Jordan and the Nile*, 36 NAT. RES. J. 217, 241 (1996).

16. See *id.* See also O. Okidi, *History of the Nile and Lake Victoria Basins Through Treaties*, in THE NILE, SHARING A SCARCE RESOURCE, *supra* note 4, at 333-34.

17. See Okidi, *supra* note 16, at 335 (quoting Paragraph (I) of Section V of the 1959 Agreement).

18. See, e.g., JOHN WATERBURY & DALE WHITTINGTON, PLAYING CHICKEN ON THE NILE? THE IMPLICATIONS OF MICRODAM DEVELOPMENT IN THE ETHIOPIAN HIGHLANDS AND EGYPT’S NEW VALLEY PROJECT 11 (Oct. 28, 1997) (unpublished manuscript, on file with the *Duke Environmental Law and Policy Forum*) (a reasonable reallocation would give Ethiopia something on the order of 12 BCM; Egypt, meanwhile, would still need to find water savings of 5-10 BCM just to complete its ambitious reclamation project in southern Egypt, the New Valley Project).

ration.<sup>19</sup> In the 1959 Nile Waters Agreement, Egypt and Sudan agreed jointly to finance the construction of such a canal and to share the “surplus” water thereby created on a 50-50 basis.<sup>20</sup> After delays, caused in part by civil unrest in southern Sudan, excavation of the “Jonglei Canal,” as the project is known, commenced in 1978.<sup>21</sup> In the early 1980’s, after having partially excavated a canal some 267 kilometers long, the project ended because of renewed fighting between the government of Sudan and rebel forces led by Dr. John Garang.<sup>22</sup> Although Sudan’s ongoing civil war certainly involves issues broader than the Jonglei Canal, it bears noting that Dr. Garang received a Ph.D. in Agricultural Economics<sup>23</sup> for his dissertation, “Identifying, Selecting, and Implementing Rural Development Strategies for the Socio-Economic Development in the Jonglei Projects Area, Southern Region, Sudan.”<sup>24</sup>

The Jonglei Canal illustrates the tension that can exist between the concepts of environmental sustainability and environmental justice. The Jonglei Canal was neither a casual nor an irrational project when judged by the logic of maximizing the Nile’s yield. The Canal had a reputation of being “the most studied project in the Third World.”<sup>25</sup> It promised to create almost 4 BCM of increased river flow at Aswan, while simultaneously offering the possibility of irrigating over 200,000 acres in the vicinity of the canal in southern Sudan.<sup>26</sup> Yet these gains were offered without sufficiently considering the wishes of the Nilotes—Nuer, Dinka, and Shilluk—who live in the surrounding flood area and have a mixed economy of animal husbandry and crop production.<sup>27</sup> Indeed, original proposals for the Canal would have “threatened substantial areas of toich lands with desiccation” while also draining much of the permanently flooded areas and adversely affecting “the livelihood for significant numbers of the swamp’s fishing population.”<sup>28</sup> Although a scaled-down plan was

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19. See Robert O. Collins, *The Jonglei Canal: Illusion or Reality?*, 13 WATER INT’L 144, 144 (1988).

20. See *id.* at 145.

21. See *id.* at 148.

22. See *id.* at 153.

23. Dr. Garang received his Ph.D. in 1981 from Iowa State University.

24. See Collins, *supra* note 19, at 152.

25. See *id.* at 150.

26. See WATERBURY, *supra* note 14, at 202.

27. See generally P. Howell & M. Lock, *The Control of the Swamps of the Southern Sudan: Drainage Schemes, Local Effects and Environmental Constraints on Remedial Development in the Flood Region*, in THE NILE, SHARING A SCARCE RESOURCE, *supra* note 4, at 253.

28. See WATERBURY, *supra* note 14, at 91-92. “Toich” lands are river-flooded grasslands

later proposed which would have avoided some of this disruption,<sup>29</sup> the local population views decisions concerning the Jonglei Canal as having been made “apparently without reference to the people through whose homelands it would pass . . . thus spark[ing] off anxiety and unfavorable reaction among Southern Sudanese sensitive to the right to manage their own affairs after 17 years of civil war . . . .”<sup>30</sup>

The interest in self-determination, the environmental justice concept that local interests in the environment were deserving of moral respect, was perhaps best highlighted in the early 1980s, when the scaled-down Jonglei Canal project was *rejected* by the southern Sudanese because it did not go far enough. Where the revised Jonglei project had projected “development strategies” for the local population based on “traditional livelihoods,” Dr. John Garang had been arguing for far more sweeping programs of “drainage and irrigation works, mechanized farming, new forms of land tenure, and the reorganization of the countryside into compact villages.”<sup>31</sup> Because too much of the Sudd’s water would leave the area, “allowing Egypt and Northern Sudan to benefit from the water saved from the Sudd was resented in the South.”<sup>32</sup>

The point to be made transcends the tension between the sustained-yield benefits and the distributive-justice costs of the Jonglei Canal. The Tucurui Dam in Brazil eliminated 80% of the settled villages of the Cuna Indians. The Narmada Dams Project in India may displace as many as 1.5 million people.<sup>33</sup> Worldwide, one source puts the number displaced by development projects between 8 and 15 million.<sup>34</sup> But something even more significant than these pockets of injustice are at stake. Through economically rational projects such as the High Dam at Aswan and (should it revive) the Jonglei Canal Project, the Nile is being changed from a free-flowing river and eco-

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which are an essential seasonal resource for Nilotes during the driest months of the year. See P. Howell & M. Lock, *supra* note 27, at 257.

29. See Collins, *supra* note 19, at 150 (“The recommendation was to realign the canal east of the population concentrated in the vicinity of Kongor . . . [and] on September 15, 1979, the canal was realigned around 100,000 Dinka and some 3000,000 [sic] cattle near Kongor . . .”).

30. Francis M. Deng, *Northern and Southern Sudan: The Nile, in* CULTURE AND NEGOTIATION, THE RESOLUTION OF WATER DISPUTES 85 (Guy Olivier Faure & Jeffrey Z. Rubin eds., 1993) (quoting P. HOWELL, M. LOCK & S. COBB, THE JONGLEI CANAL: IMPACT AND OPPORTUNITY 48 (1988)).

31. See Collins, *supra* note 19, at 152-153.

32. Deng, *supra* note 30, at 84 (quoting ABEL ALIER, THE SOUTHERN SUDAN: TOO MANY AGREEMENTS DISHONORED 203(1990)).

33. See Plater, *supra* note 7, at 127.

34. See Stavropoulou, *supra* note 7, at n.67 (citing Michael M. Cernea, *Involuntary Resettlement & Development*, 25 FIN. & DEV. 44, 332 (1988)).



system into a regulated irrigation ditch.<sup>35</sup> Yet, as historian Donald Worster observed about the Friant-Kern irrigation canal in California:

And what of the social order, the shape of the western community, which is reflected in the waters of the ditch . . . . Exploring the settlements in the vicinity of the Friant-Kern Canal yields at first a sense of social chaos, of a bewildering disorder of people and their daily lives, contrasting markedly with the rigid, clean geometry of the water system . . . . There is, however, if one looks carefully, a kind of order underlying this jumbled, discordant West . . . . It is a techno-economic order imposed for the purpose of mastering a difficult environment. People here have been organized and induced to run, as the water in the canal does, in a straight line toward maximum yield, maximum profit . . . . One might see in that . . . the qualities of concentrated wealth, technical virtuosity, discipline, hard work, popular acquiescence . . . but one cannot find in it much of what Thoreau conceived as freedom.<sup>36</sup>

The point is not to highlight that sustainability may not always be consistent with notions of distributive environmental justice, it is to raise the more disturbing idea that the demands of sustainability may not even be consistent with underlying notions of freedom.

THE HAPPIER CASE OF SUSTAINABILITY REINFORCING JUSTICE:  
PROSPECTS FOR COMMUNITY-BASED ENVIRONMENTAL  
MANAGEMENT

The fact that political changes may be required to reorient our lives to our environment surely should not come as a surprise to a belief system, such as environmentalism, premised largely on the idea that everything is connected to everything else.<sup>37</sup> Such changes, however, hardly create an inevitable bleak future of centralized totalitarianism. For years, political scientist Elinor Ostrom has been arguing that there are other ways than “Leviathan” to solve environmental-commons problems.<sup>38</sup> Most of the alternative approaches revolve

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35. See WATERBURY, *supra* note 14, at 40 (“[T]he essential point is that the new era marks the total domestication of the Nile, transforming it downstream of the [High Aswan] dam into nothing more nor less than an enormous irrigation ditch.”).

36. DONALD WORSTER, *RIVERS OF EMPIRE* 4-7 (1985).

37. See President’s Council on Sustainable Development, *Sustainable America: A New Consensus* 9 (1996) (“[T]he essence of sustainable development [is] the recognition that the pursuit of one set of goals affects others and that we must pursue policies that integrate economic, environmental, and social goals.”) (*quoted in* PERCIVAL, *supra* note 2, at 67).

38. See, OSTROM, *supra* note 3, at 8-21 (noting first that some had called only for a “coercive force,” a Leviathan, to use Hobbes’ term, to solve commons problems before sug-

around community-oriented structures that monitor and enforce against antisocial deviations from sustainable resource use (thereby achieving sustainability), while simultaneously involving local citizens in both the procedure of decision-making and the substance of sustainability's joint benefits (thereby achieving justice). There are, of course, millions of unanswered questions about how, and even whether, such a happy concurrence can actually happen in an economically complex and interrelated world. My belief is that such questions go to one of the most pressing and relevant of social science's "grand challenges." But for present purposes I wish only to sketch how notions of sustainability and justice can reinforce, rather than undermine, each other. The case history I wish to use, like the case of the Nile, comes from Africa.

In 1995, commentator Andrew Heimert compared two approaches to conserving the African elephant.<sup>39</sup> In what might be described as a centralized, rigid command-and-control approach, Heimert detailed Kenya's "protection" strategy in which Kenya bans all hunting and killing of elephants, with an eye to conserving elephants solely for their eco-tourism value.<sup>40</sup>

In the beginning, Kenya compensated farmers who lost crops to elephant damage; however, compensation was discontinued in 1989 due to a significant number of fraudulent claims.<sup>41</sup> The understandable opposition from farmers with legitimate elephant losses was reinforced by disclosures that underpaid park rangers were accepting bribes from elephant poachers and that high-level Kenyan officials were involved in the corruption.<sup>42</sup> The Kenyan approach had abysmal results: during the 1980's, the elephant population in that country dropped from approximately 65,000 to 19,000.<sup>43</sup>

In comparison, Zimbabwe has pursued an "active management" strategy that allows local people to manage wildlife in their area and to keep some of the profits from their management. Known as

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gesting that there are alternative solutions).

39. See Andrew J. Heimert, *How the Elephant Lost His Tusks*, 104 YALE L.J. 1473, 1473 (1995).

40. See *id.* at 1486 (citing *The Wildlife Conservation and Management Prohibition on Hunting of Game Animals Regulations*, 30 KENYA GAZETTE SUPP. (May 20, 1997); *The Wildlife Conservation and Management Revocation of Dealers' Licenses Act, No. 5 of 1978*, 35 KENYA GAZETTE SUPP. (June 23, 1978) at n.123 (noting estimates of \$25 million per year from elephant tourism)).

41. See *id.* at 1487 (citing RAYMOND BONNER, *AT THE HAND OF MAN* 214 (1993)).

42. See *id.* (citing BONNER, *supra* note 41, at 134).

43. See *id.* at 1488 (citing Randy Simmons & Urs Kreuter, *Save an Elephant - Buy Ivory*, WASH. POST, Oct.1 1989, at D3).

CAMPFIRE (Communal Areas Management Programme for Indigenous Resources), this strategy involves compensation for crop damage as well as community “cash dividends” from the proceeds of wildlife management.<sup>44</sup> In particular, each local council is given a quota of 1% of the area’s elephants to hunt or cull, an allocation that is used primarily to sell valuable hunting permits. The permits can be sold for between \$12,000 and \$25,000. Part of the proceeds are returned to the community, while another part is dedicated to national wildlife protection.<sup>45</sup> To give a sense of scale, one CAMPFIRE district’s total foreign aid budget for area-wide nutrition and primary education programs was only \$125,000<sup>46</sup>—thereby making the district’s stake in the health of the local elephant population quite significant. Giving local populations a share of the conservation benefit has brought ecological, as well as social, benefits: during the 1980’s, the elephant population in Zimbabwe grew from 30,000 to at least 43,000.<sup>47</sup>

Allow me to overstate the comparison. In the command-and-control system, there was no incentive for the local population to support ecological goals. They were not stakeholders (to utilize an overused phrase) in the commands, and they could only lose from imposition of the controls. It is therefore not surprising that the local population would remain indifferent to evidence that Kenyan park rangers were profiting from the commons (the elephants) by accepting bribes from poachers. In Zimbabwe, on the other hand, where the local population could profit from elephant conservation, the incentives were reversed. According to Heimert, one community “dug waterholes and provided food to maintain the elephant population during a drought,”<sup>48</sup> and in another community “people abandoned their homes and created a more centralized settlement to allow more room for wildlife to flourish.”<sup>49</sup>

Of course, this overstates the case for community-controlled commons. In the case of the CAMPFIRE program, there have been

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44. *See id.* at 1483-84.

45. *See id.* Prior to the imposition of a worldwide ban on the sale of ivory products, Zimbabwe’s “thriving domestic carving industry” earned \$2 million annually from the sale of ivory gleaned from culls. *Id.* at n.81 (citing BONNER, *supra* note 41, at 107, 265).

46. *See id.* at 1485 (citing BONNER, *supra* note 41, at 271).

47. *See id.* at 1488 (citing Simmons & Kreuter, *supra* note 43, at D3).

48. *Id.* at 1488 (citing Brian Child, *The Elephant as a Natural Resource*, WILDLIFE CONSERVATION, Mar.-Apr. 1993, at 61).

49. *Id.* (citing Child, *supra* note 48, at 61).

objections to culling on both moral and practical grounds.<sup>50</sup> There is evidence that a worldwide ban on ivory has diminished the profitability of local “rights” to elephants.<sup>51</sup> And in the case of the command-and-control system, the failure of the Kenyan experience may have as much to do with the overarching non-democratic autocracy that rules Kenya—and which thereby insulates the corrupt rangers and their supervisors from oversight by the electorate—rather than any intrinsic failure in regulatory design.<sup>52</sup>

More generally, however, the prospect for community-controlled commons management remains a legitimate, and not simply an overstated, possibility. Elinor Ostrom has documented successful cases of long-enduring, self-organized, and self-governed common property resource systems in, among other places, communally-managed high-mountain meadows and forests in Switzerland,<sup>53</sup> and communally managed irrigation districts in Spain,<sup>54</sup> the Philippines,<sup>55</sup> and an in-shore fishery in Turkey.<sup>56</sup> Others have given examples of successful community forestry in India<sup>57</sup> and referred to community-based conservation as a mechanism for protecting whole watersheds.<sup>58</sup>

However, there remains much work to be done. How, for example, is “community”-based conservation to relate to the legitimate environmental or economic objectives of non-local, overarching institutions such as state and federal governments? How is it to relate to the free-trade objectives of the General Agreement on Tariffs and Trade? How is *the* community to be defined when one leaves the isolated world of villages and moves into more urban or regional communities in which overlapping sets of intra-community relationships and an equally vibrant set of relationships with the “outside”

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50. See *id.* at n. 207 (citing Richard E. Leakey, *A Perspective From Kenya: Elephants Today and Tomorrow*, WILDLIFE CONSERVATION, Mar.-Apr. 1993, at 59).

51. See *id.* at 1484 (“[S]ince the CITES ban on elephant products went into effect, the success of the program in Nyaminyami has declined”).

52. See *id.* at 1499-502.

53. See OSTROM, *supra* note 3, at 61-65.

54. See *id.* at 69-82.

55. See *id.* at 82-88.

56. See *id.* at 18-21.

57. See Sean T. McAllister, *Community-Based Conservation: Restructuring Institutions to Involve Local Communities in a Meaningful Way*, 10 COLO. J. INT’L ENVTL. L. & POL’Y, 195, 204-205 (1999).

58. See BOB DOPPELT ET AL., ENTERING THE WATERSHED: A NEW APPROACH TO SAVE AMERICA’S RIVER ECOSYSTEMS 62-63 (1993), cited in Stephen M. Nicklesburg, *Note: Mere Volunteers? The Promise and Limits of Community-Based Environmental Protection*, 84 VA. L. REV. 1371, 1372 n.3 (1998).

world are found? What if the *local* community excludes certain individuals or groups of citizens from participation? What if the local community finds it more profitable to sell off *its* resources to the highest bidder(s) in the international market than to husband resources and share in less-impressive conservation profits? How might the creation of community property rights affect the creation of those more autonomous property rights currently being created through institutions such as water-marketing institutions or emission-trading institutions?

I raise these issues not as evidence that community-based conservation is impossible beyond the village level. Indeed, Elinor Ostrom has documented the success of a common property management regime in the very modern setting of southern California groundwater.<sup>59</sup> Rather, I raise these issues to demarcate the challenges, and some sense of the intellectual excitement, that comes from the need to reconcile the demands of sustainability, development, and justice.

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59. See Elinor Ostrom, *Community and the Endogenous Solution of Commons Problems*, 4 J. THEORETICAL POLITICS 343, 347-350 (1992).